

WHAT IS CLAIMED IS:

1. A method for providing data service in a hybrid network, wherein the hybrid network includes a Mobile Station (MS), a Radio Access Network (RAN) and a Core Network (CN), the
5 method comprising:
 exchanging messages between the MS and the RAN and between the RAN and the CN through a Hybrid Atrium, wherein the Hybrid Atrium includes an ability to exchange short messages with the MS.
- 10 2. The method of claim 1, wherein exchanging the messages includes:
 initiating a data session by the MS with the Hybrid Atrium through a Base Station Controller;
 updating a Home Location Register (HLR) by the Hybrid Atrium;
 informing a Quality of Service (QoS) by the HLR; and
15 negotiating a QoS by the Hybrid MSC.
3. The method of claim 2, further including:
 sending a Short Message to the MS from the Hybrid Atrium; and
 sending a Short Message reply from the MS to the Hybrid Atrium.
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4. The method of claim 3, further including:
 establishing a Point to Point Protocol (PPP) connection between the Hybrid Atrium and the MS; and
 establishing user data transmission between the Hybrid Atrium and the MS.
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5. The method of claim 1, further including updating the CN with a data session context update through the Hybrid Atrium.
6. The method of claim 1, wherein the exchanging of messages includes:
30 establishing a Point to Point Protocol (PPP) connection between the Hybrid Atrium and the MS;
 sending a termination request from a Base Station Controller (BSC) for the MS to the Hybrid Atrium;
 exchanging messages between the Hybrid Atrium and the CN to terminate the PPP
35 connection; and

terminating the PPP connection between the Hybrid Atrium and the MS.

7. The method of claim 1, wherein the exchanging of messages includes:
establishing a Point to Point Protocol (PPP) connection between the Hybrid Atrium and
5 the MS;
sending a termination request from the CN to the Hybrid Atrium;
exchanging messages between the Hybrid Atrium and a Base Station Controller for the MS
to terminate the PPP connection; and
terminating the PPP connection between the Hybrid Atrium and the MS.

10 8. The method of claim 1, wherein the exchanging of messages includes an ability to hand-off between Packet Data Service Nodes.

15 9. The method of claim 1, wherein the exchanging of messages includes an ability to hand-off between Serving General Packet Radio Service Serving Nodes.

20 10. The method of claim 1, wherein the exchanging of messages includes an ability to hand-off between a Packet Data Service Node and a Serving General Packet Radio Service Serving Node.

25 11. A system for providing data service in a hybrid network, wherein the hybrid network includes a Mobile Station (MS), a Radio Access Network (RAN) and a Core Network (CN), the system comprising:
a Hybrid Atrium that enables exchanging messages from the MS and the RAN to the CN,
wherein the Hybrid Atrium includes an ability to exchange short messages with the MS.

30 12. The system of claim 11, wherein the exchanging the messages includes:
a Base Station Controller in communications with the MS, wherein the MS initiates a data session with the Hybrid Atrium through the Base Station Controller and wherein the Hybrid Atrium updates a Home Location Register (HLR) and wherein the HLR establishes a Quality of Service (QoS).

35 13. The system of claim 12, wherein the Hybrid Atrium sends a Short Message to the MS; and wherein the MS sends a Short Message reply to the Hybrid Atrium.

14. The system of claim 13, wherein a Point to Point Protocol (PPP) connection is established between the Hybrid Atrium and the MS and wherein a user data transmission is established between the Hybrid Atrium and the MS.

5 15. The system of claim 11, wherein the CN is updated with a data session context update through the Hybrid Atrium.

16. The system of claim 11, further including a Point to Point Protocol (PPP) connection established between the Hybrid Atrium and the MS and wherein a termination request is sent from
10 a Base Station Controller (BSC) for the MS to the Hybrid Atrium and wherein messages are exchanged between the Hybrid Atrium and the CN to terminate the PPP connection and the PPP connection is terminated between the Hybrid Atrium and the MS.

17. The system of claim 11, wherein a Point to Point Protocol (PPP) connection is established
15 between the Hybrid Atrium and the MS, a termination request is sent from the CN to the Hybrid Atrium, messages are exchanged between the Hybrid Atrium and a Base Station Controller for the MS to terminate the PPP connection, and the PPP connection is terminated between the Hybrid Atrium and the MS.

20 18. The system of claim 11, further including an ability to hand-off between Packet Data Service Nodes.

19. The system of claim 11, further including an ability to hand-off between Serving General Packet Radio Service Serving Nodes.

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20. The system of claim 11, further including an ability to hand-off between a Packet Data Service Node and a Serving General Packet Radio Service Serving Node.

21. A method for providing data service in a hybrid network, wherein the hybrid network
30 includes a Mobile Station (MS), a Radio Access Network (RAN) and a Core Network (CN), the method comprising:

exchanging messages between the MS and the RAN and between the RAN and the CN through a Hybrid Atrium, wherein the Hybrid Atrium includes an ability to exchange short messages with the MS and wherein the Hybrid Atrium exchanges messages with a Serving General

Packet Radio Service (GPRS) Serving Node, Gateway GPRS Service Node, and a Packet Data Service Node.